SOUTHERN CALIFORNIA ENVIRONMENTAL SENSITIVITY INDEX METADATA

October 1995

National Oceanic and Atmospheric Administration
Hazardous Materials Response and Assessment Division
7600 Sand Point Way, Northeast
Seattle, Washington 98115

FILE DESCRIBES: Digital data for 1995 Southern California Environmental Sensitivity Index. Data were compiled and digitized at Research Planning, Inc., Columbia, South Carolina.

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FILE CREATED ON: 19950710

COMMENTS: Information was developed using the U.S. Federal Geographic Data Committee's Content Standards for Digital Geospatial Metadata, June 8, 1994. The numbering scheme matches the Metadata Standard in order to facilitate referencing definitions of the elements. The items in **bold** are required elements and the others are optional elements. The Spatial Data Transfer Standard (SDTS), ver. 03/92, was referenced to properly identify the geographic entities.

TABLE OF CONTENTS

Page

TABLE OF CONTENTS (continued)

LIST OF FIGURES

1.0. IDENTIFICATION INFORMATION

1.1. CITATION

1.1.1. ORIGINATOR:

National Oceanic and Atmospheric Administration (NOAA), Office of Ocean Resources Conservation and Assessment, Seattle, Washington 98115; and Research Planning, Inc., 1200 Park Street, Post Office Box 328, Columbia, South Carolina 29202

1.1.2. PUBLICATION DATE:

199409

1.1.4. TITLE:

Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Southern California

1.1.5. EDITION:

First

1.1.6. GEOSPATIAL DATA PRESENTATION FORM:

Atlas

1.1.7. SERIES INFORMATION

1.1.7.1. SERIES NAME:

None

1.1.7.2. ISSUE IDENTIFICATION:

Southern California

1.1.8. PUBLICATION INFORMATION

1.1.8.1. PUBLICATION PLACE:

Seattle, Washington

1.1.8.2. PUBLISHER:

NOAA, Office of Ocean Resources Conservation and Assessment

1.1.9. OTHER CITATION DETAILS:

Prepared by Research Planning, Inc., Columbia, South Carolina for the Hazardous Materials Response and Assessment Division, National Oceanic and Atmospheric Administration, Seattle, Washington and the California Department of Fish and Game, Office of Oil Spill Prevention and Response, Sacramento, California

1.1.10. ONLINE LINKAGE:

Not available

1.1.11. LARGER WORK CITATION:

None

1.2. DESCRIPTION

1.2.1. ABSTRACT:

This data set comprises the Environmental Sensitivity Index (ESI) maps for the shoreline of southern California. ESI data characterize coastal environments and wildlife by their sensitivity to spilled oil. The ESI data include information for three main components: shoreline habitats, sensitive biological resources, and human-use resources

1.2.2. PURPOSE:

The ESI data were collected, mapped, and digitized to provide environmental data for oil spill planning and response. The Clean Water Act with amendments by the Oil Pollution Act of 1990 requires response plans for immediate and effective protection of sensitive resources

1.3. TIME PERIOD OF CONTENT

1.3.1. TIME PERIOD INFORMATION

1.3.1.3. RANGE OF DATES/TIMES:

The intertidal habitats were mapped during aerial and ground surveys conducted from 12-14 October 1993. The biological and human use resources data were compiled by regional biologists in 1994. The dates for these data vary and are documented in Section 2.5.1

1.4. STATUS

1.4.1. PROGRESS:

Complete

1.4.2. MAINTENANCE AND UPDATE FREQUENCY:

None planned

1.5. SPATIAL DOMAIN

1.5.1. BOUNDING COORDINATES

1.5.1.1. WEST BOUNDING COORDINATE:

-120.50°

1.5.1.2. EAST BOUNDING COORDINATE:

-117.04°

1.5.1.3. NORTH BOUNDING COORDINATE:

34.50°

1.5.1.4. SOUTH BOUNDING COORDINATE:

32.50°

1.6 KEYWORDS

1.6.1. THEME

1.6.1.1. THEME KEYWORD THESAURUS:

None

1.6.1.2. THEME KEYWORD:

Sensitivity maps, ESI; coastal resources, oil spill planning, and coastal zone management

1.6.2. PLACE

1.6.2.1. THESAURUS:

None

1.6.2.2. PLACE KEYWORD:

Southern California: from the U.S./Mexico border to Point Conception

1.7. ACCESS CONSTRAINTS:

None

1.8. USE CONSTRAINTS:

DO NOT USE ESI MAPS FOR NAVIGATIONAL PURPOSES.
Besides the above warning, there are no use constraints on this data. Acknowledgment of NOAA and other contributing sources would be appreciated in products derived from these data

1.11. DATA SET CREDIT:

This project was supported jointly by NOAA's Hazardous Materials Response and Assessment Division, Robert Pavia, Project Manager, and the Office of Oil Spill Prevention and Response (OSPR), Don Lollock, Program Manager. James Morris, Scientific Support Coordinator from NOAA, assisted with many aspects of the logistical arrangements and participated in the field surveys. Don Lollock, Dale Watkins, and Mel Odemar of OSPR's management staff made critical arrangements and participated in some of the field surveys.

All of the biological data included on these maps were provided by John Tarpley, Jim Hardwick, Joe Lesh, Melissa Boggs, and Heidi Togstad of the California Department of Fish and Game (CDF&G). They, in turn, collected the information from numerous people throughout southern California. The data collection effort was coordinated by Randy Imai of CDF&G.

At Research Planning, Inc. (RPI), Jeffrey Dahlin was the project biologist and Joanne Halls was responsible for the collection of data and automation of the maps; Joanne Halls was responsible for data organization. Shoreline mapping was conducted by Jacqueline Michel and Miles O. Hayes. James Olsen, Scott Johnson, Nilesh Shiroff, William Holton, Lee Diveley, and Mark White entered the data and produced the final maps.

1.13. NATIVE DATA SET ENVIRONMENT:

The software packages used to develop the atlas are Environmental Systems Research Institute's Arc/INFO (version 7.0 pre-release) and Oracle RDBMS (version 6.0.36.1.1). The hardware configuration is Hewlett Packard workstations (models 715/50 and 712/80 with 4 X-terminals) with unix operating system (HP-UX Release A.09.01). The following files are included in the data set: birds.e00, esi.e00, fish.e00, hydro.e00, index.e00, mammals.e00, mgt.e00, nests.e00, plants.e00, reptiles.e00, shellfsh.e00, socecon.e00, wetlands.e00, biores.e00, soc_data.e00, experts.e00, seasonal.e00, and species.e00. The entire data set is approximately 50 megabytes.

2.0. DATA QUALITY INFORMATION

2.1. ATTRIBUTE ACCURACY

2.1.1. ATTRIBUTE ACCURACY REPORT:

The attribute accuracy is estimated to be "good" given the years of ESI experience, the data input methodology, the quality control review sessions, and the digital logical consistency checks.

2.1.2. QUANTITATIVE ATTRIBUTE ACCURACY ASSESSMENT

Not available at this time; however, as assessment is planned

2.2. LOGICAL CONSISTENCY REPORT:

The digitization of shoreline types, biological resources, and human-use resources is a complex and highly quality-controlled process. In order to facilitate digitizing, the entire study area is split into individual quadrangles using the INDEX coverage. The first layer of information digitized is the ESI shoreline. Upon completion of digitization the data are checked for completeness and topological and logical consistency and then plotted and checked by the mapping geologists. Any errors in the shoreline classification are updated prior to digitization of the biological and socioeconomic layers. All layers use the shoreline as the geographic reference so that there are no slivers in the geographic coordinates. The hardcopy biological information is compiled onto 1:24,000 USGS topographic quadrangles by a biological expert using data from regional specialists in the form of maps, tables, charts, and written descriptions of wildlife distributions. The data are digitized; checked, using both digital and on-screen procedures; plotted; and sent out for review by the regional specialists. The edited maps are updated, checked once again, and the final product plotted (at approximately 1:50,000 scale). A team of specialists review the entire series of maps, check all data, and make final edits. The data are then merged to form the study-wide layers. The data merging includes a final quality control check where labels, chains, and polygons are checked for attribute accuracy.

To finalize the data checking process, each coverage is checked using a standardized form by two GIS personnel (a technician and the GIS manager), and each attribute database is checked using several programs that test the files for missing or duplicate data, rules for proper coding, GIS topological consistencies (such as dangles, unnecessary nodes, etc.), and Oracle to

Arc/INFO consistencies. A final review is made by the GIS manager and programs are run to generate the unique IDs and associated lookup tables.

2.3. COMPLETENESS REPORT:

Shoreline Habitat Mapping:

Prediction of the behavior and persistence of oil on intertidal habitats is based on an understanding of the dynamics of the coastal environments, not just the substrate type and grain size. The vulnerability of a particular intertidal habitat is an integration of the following factors:

1) Shoreline type (substrate, grain size, tidal elevation, origin)
2) Exposure to wave and tidal energy
3) Biological productivity and sensitivity
4) Ease of cleanup

All of these factors are used to determine the relative sensitivity of intertidal habitats. Key to the sensitivity ranking is an understanding of the relationships between: physical processes; substrate; shoreline type; product type; fate and effect; and sediment transport patterns. The intensity of energy expended upon a shoreline by wave action, tidal currents, and river currents directly affects the persistence of stranded oil. The need for shoreline cleanup activities is determined, in part, by the slowness of natural processes in removal of oil stranded on the shoreline.

These concepts have been used in the development of the ESI, which ranks shoreline environments as to their relative sensitivity to oil spills, potential biological injury, and ease of cleanup. Generally speaking, areas exposed to high levels of physical energy, such as wave action and tidal currents, and low biological activity rank low on the scale, whereas sheltered areas with associated high biological activity have the highest ranking.

Sensitive Biological Resources:

Regional biologists compiled the biological data. These data denote the key biological resources that are most likely at risk in the event of an oil spill. Six major categories, or elements, of biological resources were considered during data compilation: birds, fish, shellfish, mammals, plants, and reptiles.

Each ELEMENT corresponds to a coverage or geographic theme. There are four attribute tables, BIORES, SEASONAL, SPECIES, and

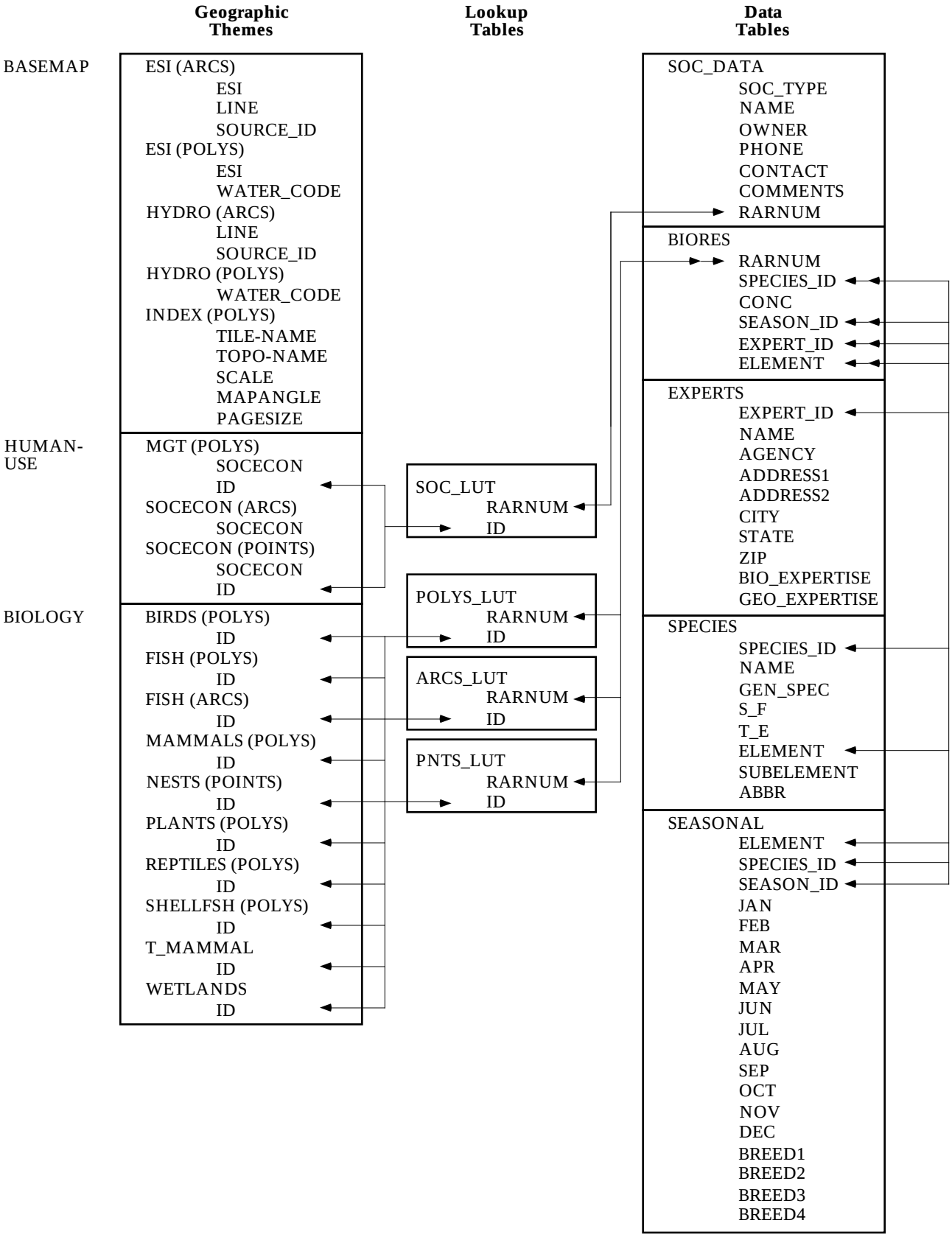
Geographic Themes
Lookup Tables
Data Tables
BASEMAP
ESI (ARCS)
ESI
LINE
SOURCE_ID
ESI (POLYS)
ESI
WATER_CODE
HYDRO (ARCS)
LINE
SOURCE_ID
HYDRO (POLYS)
WATER_CODE
INDEX (POLYS)
TILE-NAME
TOPO-NAME
SCALE
MAPANGLE
PAGESIZE
HUMAN-USE
MGT (POLYS)
SOCECON
ID
SOCECON (ARCS)
SOCECON
SOCECON (POINTS)
SOCECON
ID
BIOLOGY
BIRDS (POLYS)
ID
FISH (POLYS)
ID
FISH (ARCS)
ID
MAMMALS (POLYS)
ID
NESTS (POINTS)
ID
PLANTS (POLYS)
ID
REPTILES (POLYS)
ID
SHELLFSH (POLYS)
ID
T_MAMMAL
ID
WETLANDS
ID
SOC_LUT
RARNUM
ID
POLYS_LUT
RARNUM
ID
ARCS_LUT
RARNUM
ID
PNTS_LUT
RARNUM
ID
SOC_DATA
SOC_TYPE
NAME
OWNER
PHONE
CONTACT
COMMENTS
RARNUM
BIORES
RARNUM
SPECIES_ID
CONC
SEASON_ID
EXPERT_ID
ELEMENT
EXPERTS
EXPERT_ID
NAME
AGENCY
ADDRESS1
ADDRESS2
CITY
STATE
ZIP
BIO_EXPERTISE
GEO_EXPERTISE
SPECIES
SPECIES_ID
NAME
GEN_SPEC
S_F
T_E
ELEMENT
SUBELEMENT
ABBR
SEASONAL
ELEMENT
SPECIES_ID
SEASON_ID
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
BREED1
BREED2
BREED3
BREED4

FIGURE 1. Relationships between biology coverages and attribute files.

EXPERTS, that are used to store the complex biological data (Fig. 1). Each biological coverage (BIRDS, FISH, MAMMALS, NESTS, PLANTS, REPTILES, and SHELLFSH) is linked to the data tables through the feature specific lookup tables, POLY_LUT, ARCS_LUT or PNTS_LUT. The identifier associated with each attributed feature uniquely identifies the atlas, the element, and the feature numbers. In the lookup table, this identifier references a RARNUM that is the link to the Biological Resources table, BIORES. The value of RARNUM is determined for each unique combination of SPECIES_ID, SEASON_ID, and CONC. The items in BIORES are: RARNUM, SPECIES_ID, CONC, SEASON_ID, EXPERT_ID, and ELEMENT. SPECIES_ID is the numeric identifier of each species and is unique within each ELEMENT. CONC is the concentration of the species and can be LOW, MEDIUM or HIGH or an actual count of the numbers of species present in the polygon. SEASON_ID contains a numeric value according to the monthly presence of the species. Usually, there is one seasonality per species, but occasionally the same species has different monthly presence or breeding activity. When this occurs, a new record with a different seasonality is referenced.

The SEASONAL table stores the monthly presence of each species and the characteristics of the presence (life history information). The BIORES table is linked to the SEASONAL table using the SPECIES_ID, ELEMENT, and SEASON_ID items. The categories of the variables BREED1 through BREED4 for each ELEMENT are:

ELEMENT	BREED 1	BREED 2	BREED 3	BREED 4
BIRD	nesting	laying	hatching	fledging
FISH	spawning	juvenile	outmigration	
MAMMAL	calving	pupping	molting	
REPTILE	nesting	hatching		
SHELLFSH	spawning	juvenile		

NOTE: There are no BREED variables for PLANTS.

The SPECIES table contains the common name (NAME), the scientific name (GEN_SPEC), the state and federal status (S_F), and the threatened or endangered status (T_E). The items SUBELEMENT and ABBR refer to the

grouping of the species and the associated abbreviation. The SUBELEMENTS, by ELEMENT, are:

ELEMENT	SUBELEMENT	ABBR
Bird	Alcid	AL
	Diving Coastal Bird	DB
	Gull / Tern	GT
	Passerine	PS
	Pelagic	PB
	Raptor	RP
	Shorebird	SB
	Wading Bird	WB
	Waterfowl	WF
Fish	Anadromous	AN
	Beach Spawner	BS
	Kelp Spawner	KS
	Reef Fish	RF
	Special Concentration	SF
Marine Mammal	Dolphin	DL
	Manatee	MN
	Sea Lion	SL
	Sea Otter	OT
	Seal	SE
	Whale	WH
Plant	Marsh	MH
	Submerged aquatic vegetation	
	Shrub	
Reptile	Alligator / Crocodile	AG
	Sea Turtle	TR
Shellfish	Abalone	AB
	Cephalopod	SQ
	Clam	CL
	Conch / Whelk	WK
	Echinoderm	EC
	Gastropod	WK
	Mussel	MS
	Oyster	OY
	Scallop	SC
	Squid / Octopus	SQ
	Crab	CB
	Lobster	LB
	Shrimp	SH
Terrestrial Mammal	Bear	BR
	Deer	DR
	Mustelid	MS
	Rodent	RD

There is also an EXPERTS table that contains a list of experts who may be contacted during an oil spill. BIORES and EXPERTS are linked using the item EXPERT_ID.

Human-Use Resources:

Several human-use, or socioeconomic, features are included in ESI atlases. Entity points and complete chains are digitized into the coverage SOCECON. The data set is linked to the data table SOC_DATA through the lookup table SOC_LUT. A unique identifier, which is a composite value of the atlas, the cover, and the feature numbers, is associated with each human-use feature. This identifier references a RARNUM in the SOC_LUT that then links to the table SOC_DATA

ENTITY POINTS (.PAT)		COMPLETE CHAINS (.AAT)	
Item	**Type**	**Item**	**Type**
SOCECON	C	SOCECON	C
ID	I		

The SOCECON item may contain the following values:

Entity Points		**Complete Chains**	
Feature	**SOCECON**	**Feature**	**SOCECON**
Access	A2	Indian Reservation	IR
Airport	A	International Border	IB
Aquaculture	AQ	Marine Sanctuary	MS
Archaeological Sites	AS	National Park	NP
Beach	B	Park	P
Boat Ramp	BR	Pipeline	PL
Campground	CP	Regional or State Park	SP
Coast Guard	CG	State Border	SB
Commercial Fishing	FA	State Beach	B / RB
Factory	F2	Wildlife Refuge	WR
Fishery Area	FA		
Historical Site	HS		
Hoist	H		
Log Storage	LS		
Marina	M		
Marine Sanctuary	MS		
Mining	M2		
National Park	NP		
Oil Facilities	OF		
Platforms	PF		
Public Fishing	PF		
Recreational Beach	RB		
Recreational Fishing	RF / PF		
State Park	SP		
Subsistence	S		
Village	V		
Water Intake	WI		
Wildlife Refuge	WR		

The table SOC_DATA contains the feature type, contact person, the owner of the facility, phone number, and any comments regarding the site. The RARNUM value is distinguished from the biology RARNUM values by an "H" preceding the unique number.

2.4. POSITIONAL ACCURACY

2.4.1. HORIZONTAL POSITIONAL ACCURACY

2.4.1.1. HORIZONTAL POSITIONAL ACCURACY REPORT:

The ESI data uses USGS 1:24,000 topographic quadrangles as the base map. It is estimated that the ESI has a minimum mapping unit of 50 feet. The biological data sets are developed primarily using regional experts who estimate concentration areas. Unlike shorelines, which maintain relative spatial stability through time, the biological data by nature migrate across the landscape. Therefore, the 1:24,000 USGS quadrangles are used as a base map in gathering the data but the data have “fuzzy” boundaries which must be understood when utilizing this information.

2.5. LINEAGE

2.5.1. SOURCE INFORMATION:

Coverage or theme name: BIRDS

2.5.1.1. SOURCE CITATION

2.5.1.1.1 Originator	2.5.1.1.2 Publication Date	2.5.1.1.4 Title	2.5.1.1.6 Geospatial Data Presentation Form	2.5.1.1.8 Publication Information	2.5.1.2 Source Scale Denominator	2.5.1.4 Source Time Period
UC Davis, Dan Anderson, 916/752-3576	1990	Brown Pelican Roosting Areas	Digital, Point	None	Unknown	Unknown
Eric Kauffman, State of California, State Land Commission	1993	Seabird Colonies of the California Coast	Digital, Entity Points	None	24,000	1989-1990
California Department of Fish and Game	1980	Atlas of California Coastal Marine Resources	Map	Unknown	24,000	1970's
U.S. Fish and Wildlife Service	1993	Western Snowy Plover Distribution	Map	Unknown	24,000	Unknown
A.D. Beccasio *et al*., Dames & Moore	1981	Pacific Coast Ecological Inventory Maps–Los Angeles, Calif., - Long Beach and Santa Ana, Calif.	3 Maps; a report accompanies the map series	Biological Services Program, U.S. Fish and Wildlife Service, Slidell, La., Report No. FWS/OBS-81/30, 159 pp.	250,000	Data for map series compiled from many sources 1921-1981.
A.D. Beccasio *et al*., Dames & Moore	1981	Pacific Coast Ecological Inventory - San Luis Obispo, California	Map, a report accompanies the map series	Biological Services Program, U.S. Fish and Wildlife Service, Slidell, La., Report No. FWS/OBS-81/30, 159 pp.	250,000	Data for map series compiled from many sources 1921-1981.
William S. Leet, Christopher Dewees, and Charles Haugen	1992	California Living Marine Resources and Their Utilization	Book	Unknown	None	Unknown
California Department of Fish and Game, Natural Heritage Division	1993	State and Federal Endangered and Threatened Animals of California	Book	Unknown	None	1993

2.5.1.1.1 Originator	2.5.1.1.2 Publication Date	2.5.1.1.4 Title	2.5.1.1.6 Geospatial Data Presentation Form	2.5.1.1.8 Publication Information	2.5.1.2 Source Scale Denomi-nator	2.5.1.4 Source Time Period
David Zeiner	1990	California's Wildlife: Vol. 2, Birds	Book	Unknown	None	1980's
U.S. Fish and Wildlife Service	Unknown	Report on the Critical Habitat of the Western Snowy Plover	Report	Unknown	None	Unknown
Bruce Elliott, California Department of Fish and Game, Wildlife Division	None	Locations of bird rookeries and sensitive nesting sites	Personal Knowledge	None	None	1994
Mickey Rivera, U.S. Fish and Wildlife Service	None	Various coastal and marine birds	Personal Knowledge	None	None	1994
Melissa Milander, San Diego Unified Port District	None	Various coastal and marine birds, San Diego Bay	Personal Knowledge	None	None	1994
Mike Wells, California Department of Parks and Recreation	None	Coastal and marine birds, San Diego Co.	Personal Knowledge	None	None	1994
Dave Pryor, California Department of Parks and Recreation	None	Various coastal & marine birds	Personal Knowledge	None	None	1994
Jan Larson, U.S. Navy	None	Various coastal and marine birds, San Clemente Island	Personal Knowledge	None	None	1994
D. Boyer, USMC	None	Birds, Camp Pendleton	Personal Knowledge	None	None	1994
J. Kerbavaz, California Department of Parks and Recreation	None	Birds, Tijuana Estuary	Personal Knowledge	None	None	1994
M. Hoffman-Nelson, U.S. Fish and Wildlife Service	None	Birds, Tijuana Estuary	Personal Knowledge	None	None	1994

2.5.1.1.1 Originator	2.5.1.1.2 Publication Date	2.5.1.1.4 Title	2.5.1.1.6 Geospatial Data Presentation Form	2.5.1.1.8 Publication Information	2.5.1.2 Source Scale Denomi-nator	2.5.1.4 Source Time Period
J. Zedler, San Diego State University	None	Light-footed clapper rails	Personal Knowledge	None	None	1995
George Gross, California Department of Fish and Game	None	Birds, Santa Barbara and Ventura Cos.	Personal Knowledge	None	None	1994
Dr. Jack Engle, University of California at Santa Barbara	None	Least tern, Santa Barbara Area and North Channel Islands	Personal Knowledge	None	None	1994
Dave Coon, University of California at Santa Barbara	None	Birds, Devereaux Slough	Personal Knowledge	None	None	1994
Heidi Togstad, California Department of Fish and Game–OSPR	None	Seabirds and Shorebirds	Personal Knowledge	None	None	1994
Kerry Phillips, U.S. Fish and Wildlife Service	None	W. snowy plover, So. Calif.	Personal Knowledge	None	None	1994
Paul Lehman, Audubon Society	None	Birds, Southern California	Personal Knowledge	None	None	1994
M. Bouche, California Department of Fish and Game	None	Least Tern, Santa Barbara and Ventura Cos.	Personal Knowledge	None	None	1994
Virginia Gardner-Johnson, California State Parks Depart-ment	None	Birds, San Luis Obispo, Santa Barbara and Ventura Cos.	Personal Knowledge	None	None	1994
Wayne Ferren, University of California at Santa Barbara	None	Birds, Southern California	Personal Knowledge	None	None	1994
Rob Klinger, The Nature Conservancy	None	Birds, Santa Cruz Island	Personal Knowledge	None	None	1994
L. Laughrin, University of California at Santa Barbara	None	Birds, Santa Cruz Island	Personal Knowledge	None	None	1994
D. Richards, NPS	None	Birds, Channel Islands National Park	Personal Knowledge	None	None	1994

2.5.1. SOURCE INFORMATION:

Coverage or theme name: FISH

2.5.1.1. SOURCE CITATION

2.5.1.1.1 Originator	2.5.1.1.2 Publication Date	2.5.1.1.4 Title	2.5.1.1.6 Geospatial Data Presentation Form	2.5.1.1.8 Publication Information	2.5.1.2 Source Scale Denomi-nator	2.5.1.4 Source Time Period
California Department of Fish and Game	1980	Atlas of California Coastal Marine Resources	Map	Unknown	24,000	1970's
A.D. Beccasio, *et al*., Dames & Moore	1981	Pacific Coast Ecological Inventory - San Luis Obispo, California	Map, a report accompanies the map series	Biological Services Program, U.S. Fish and Wildlife Service, Slidell, La., Report No. FWS/OBS-81/30, 159 pp.	250,000	Data for map series compiled from many sources 1921-1981
W.S. Leet, C.M. Dewees, and C.W. Haugen (Eds.)	1992	California's Living Marine Resources and Their Utilization	Book	Unknown	None	Unknown
Peter Moyle, Jack Williams, and Eric Wikramanayake	1989	Fish Species of Special Concern of California	Book	Unknown	None	Unknown
C.C. Swift, J.L. Nelson, C. Maslow, and T. Stein	1989	Biology and Distribution of the Tide-water Goby, *Eucyclogobius newberryi*: (*Pisces*; *Gobiidae*) of California	Book	Unknown	None	1970-1977 1980-1982
C.C. Swift, T. Haglund, and M. Ruiz	1990	Status of Freshwater Fishes of Southern California with Recom-mendations for Preserves to Maintain Their Existence	Book	Unknown	None	1970-1989

2.5.1.1.1 Originator	2.5.1.1.2 Publication Date	2.5.1.1.4 Title	2.5.1.1.6 Geospatial Data Presentation Form	2.5.1.1.8 Publication Information	2.5.1.2 Source Scale Denomi-nator	2.5.1.4 Source Time Period
William S. Leet, Christopher Dewees, and Charles Haugen	1992	California Living Marine Resources and Their Utilization	Book	Unknown	None	Unknown
California Department of Fish and Game, Natural Heritage Division	1993	State and Federal Endangered and Threatened Animals of California	Book	Unknown	None	Unknown
R.L. Emmett, S.L. Stone, S.A. Hintor, and M.E. Monaco	1991	Distribution and Abundance of Fishes and Invertebrates in West Coast Estuaries - Volume II: Species Life History Summaries	Book	ELMR Rep. No. 8 NOAA / NOS Strategic Environmental Assessments Division, Rockville, MD, 329 pp.	None	Info compiled from the historical and current literature and expert personal comm. and knowledge
U.S. Fish and Wildlife Service and California Department of Fish and Game	1976	The Natural Resources of Mugu Lagoon	Report / paper?	Unknown	None	Unknown
Susan McBride, CA Sea Grant, 707-443-8369	None	Locations of commercial species	Personal Knowledge	None	None	1994
John Grant, California Department of Fish and Game–OSPR	None	So. California grunion, fishes of LA / LB Harbor	Personal Knowledge	None	None	1994
Dave Parker, California Department of Fish and Game, Marine Resources Division	None	So. California grunion, fishes of LA / LB Harbor	Personal Knowledge	None	None	1994
Paul Gregory, California Department of Fish and Game, Marine Resources Division	None	Southern California Grunion	Personal Knowledge	None	None	1994

2.5.1.1.1 Originator	2.5.1.1.2 Publication Date	2.5.1.1.4 Title	2.5.1.1.6 Geospatial Data Presentation Form	2.5.1.1.8 Publication Information	2.5.1.2 Source Scale Denomi-nator	2.5.1.4 Source Time Period
Steve Crooke, California Department of Fish and Game, Marine Resources Division	None	Southern California grunion, halibut, sand bass, rockfish, surf perch, steelhead trout, etc.	Personal Knowledge	None	None	1994
Chuck Valle, California Department of Fish and Game	None	Southern California corbina, croaker, mullet, halibut	Personal Knowledge	None	None	1994
Robin Lewis, California Department of Fish and Game–OSPR	None	grunion	Personal Knowledge	None	None	1994
D. Boyer, USMC.	None	Fish, Camp Pendleton	Personal Knowledge	None	None	1994
Slater Buck, USMC	None	Tidewater goby, Camp Pendleton	Personal Knowledge	None	None	1994
J. Kerbavaz, California Department of Parks and Recreation	None	Fish, Tijuana Estuary	Personal Knowledge	None	None	1994
M. Hoffman-Nelson, U.S. Fish and Wildlife Service	None	Fish, Tijuana Estuary	Personal Knowledge	None	None	1994
George Gross, California Department of Fish and Game	None	Fish, Santa Barbara and Ventura Cos.	Personal Knowledge	None	None	1994
Ronald Takayama, California Department of Fish and Game	None	Fish, Santa Barbara and Ventura Cos.	Personal Knowledge	None	None	1994
Ken Sasaki, California Department of Fish and Game	None	Fish, Santa Barbara and Ventura Cos.	Personal Knowledge	None	None	1994

2.5.1.1.1 Originator	2.5.1.1.2 Publication Date	2.5.1.1.4 Title	2.5.1.1.6 Geospatial Data Presentation Form	2.5.1.1.8 Publication Information	2.5.1.2 Source Scale Denomi-nator	2.5.1.4 Source Time Period
Dave Coon, University of California at Santa Barbara	None	Fish, Devereaux Slough	Personal Knowledge	None	None	1994
Maurice Cardenaz, California Department of Fish and Game	None	Tidewater goby and steelhead trout, Santa Barbara and Ventura Cos.	Personal Knowledge	None	None	1994
Dr. Richard Ambrose, University of California–Los Angeles	None	Tidewater goby, So. California	Personal Knowledge	None	None	1994
D. Richards, National Park Service	None	Fish, Channel Islands National Park	Personal Knowledge	None	None	1994

2.5.1. SOURCE INFORMATION:

Coverage or theme name: MAMMALS

2.5.1.1. SOURCE CITATION

2.5.1.1.1 Originator	2.5.1.1.2 Publication Date	2.5.1.1.4 Title	2.5.1.1.6 Geospatial Data Presentation Form	2.5.1.1.8 Publication Information	2.5.1.2 Source Scale Denomi-nator	2.5.1.4 Source Time Period
Dan Anderson, University of California at Davis	1991	Sea Otter sightings by aerial survey	Digital, Point	None	Unknown	1990
California Department of Fish and Game	1980	Atlas of California Coastal Marine Resources	Map	Unknown	24,000	1970s
A.D. Beccasio, et al., Dames & Moore	1981	Pacific Coast Ecological Inventory - San Luis Obispo, California	Map, a report accompanies the map series	Biological Services Program, U.S. Fish and Wildlife Service, Slidell, La., Report No. FWS/OBS-81/30, 159 pp.	250,000	Data for map series compiled from many sources 1921-81
William S. Leet, Christopher Dewees, and Charles Haugen	1992	California Living Marine Resources and Their Utilization	Book	Unknown	None	Unknown
David Zeiner	1990	California's Wildlife: Vol. 3, Mammals	Book	Unknown	None	1980s
Brian Hatfield, U.S. Fish and Wildlife Service	None	Sea otters, elephant seals and other marine mammal densities and distributions	Personal Knowledge	None	None	1994
Fred Wendell, California Department of Fish and Game	None	Sea otters	Personal Knowledge	None	None	1994
Robin Lewis, California Department of Fish and Game–OSPR	None	Marine mammals	Personal Knowledge	None	None	1994

2.5.1.1.1 Originator	2.5.1.1.2 Publication Date	2.5.1.1.4 Title	2.5.1.1.6 Geospatial Data Presentation Form	2.5.1.1.8 Publication Information	2.5.1.2 Source Scale Denomi-nator	2.5.1.4 Source Time Period
Dave Pryor, California Department of Parks and Recreation	None	Various marine mammals	Personal Knowledge	None	None	1994
Jan Larson, U.S. Navy	None	Various marine mammals, San Clemente Island	Personal Knowledge	None	None	1994
C. Woodhouse, Santa Barbara Museum of Natural History	None	Marine mammals, Santa Barbara area	Personal Knowledge	None	None	1994
Doyle Hanan, California Department of Fish and Game	None	Marine mammals, S. Cal.	Personal Knowledge	None	None	1994
Rob Klinger, The Nature Conservancy	None	Marine mammals, Santa Cruz Island	Personal Knowledge	None	None	1994
L. Laughrin, University of California at Santa Barbara	None	Marine mammals, Santa Cruz Island	Personal Knowledge	None	None	1994
D. Richards, National Park Service	None	Marine mammals, Channel Islands National Park	Personal Knowledge	None	None	1994
F. Wendell, California Department of Fish and Game	None	Sea otters, San Nicholas Island Translocation Zone	Personal Knowledge	None	None	1995

2.5.1. SOURCE INFORMATION:

Coverage or theme name: PLANTS

2.5.1.1. SOURCE CITATION

2.5.1.1.1 Originator	2.5.1.1.2 Publication Date	2.5.1.1.4 Title	2.5.1.1.6 Geospatial Data Presentation Form	2.5.1.1.8 Publication Information	2.5.1.2 Source Scale Denomi-nator	2.5.1.4 Source Time Period
A.D. Beccasio, et al., Dames & Moore	1981	Pacific Coast Ecological Inventory - San Luis Obispo, California	Map, a report accompanies the map series	Biological Services Program, U.S. Fish and Wildlife Service, Slidell, La., Report No. FWS/OBS-81/30, 159 pp.	250,000	Data for map series compiled from many sources 1921-81.
William S. Leet, Christopher Dewees, and Charles Haugen	1992	California Living Marine Resources and Their Utilization	Book	Unknown	None	Unknown
Chuck Valle, California Department of Fish and Game	None	So. California eelgrass	Personal Knowledge	None	None	1994
Melissa Milander, San Diego Unified Port District	None	Eelgrass locations, San Diego Bay	Personal Knowledge	None	None	1994
Robin Lewis, California Department of Fish and Game–OSPR	None	Kelp locations	Personal Knowledge	None	None	1994
J. Kerbavaz, California Department of Parks and Recreation	None	Plants, Tijuana Estuary	Personal Knowledge	None	None	1994
M. Hoffman-Nelson, U.S. Fish and Wildlife Service	None	Plants, Tijuana Estuary	Personal Knowledge	None	None	1994
George Gross, California Department of Fish and Game	None	Surfgrass and eelgrass, Santa Barbara and Ventura Cos.	Personal Knowledge	None	None	1994

2.5.1.1.1 Originator	2.5.1.1.2 Publication Date	2.5.1.1.4 Title	2.5.1.1.6 Geospatial Data Presentation Form	2.5.1.1.8 Publication Information	2.5.1.2 Source Scale Denomi-nator	2.5.1.4 Source Time Period
Dr. Jack Engle, University of California at Santa Barbara	None	Surf grass, Santa Barbara area and No. Channel Islands	Personal Knowledge	None	None	1994
Wayne Ferren, University of California at Santa Barbara	None	Threatened / Endangered Plants, So. California	Personal Knowledge	None	None	1994

2.5.1. SOURCE INFORMATION:

Coverage or theme name: REPTILES

2.5.1.1. SOURCE CITATION

2.5.1.1.1 Originator	2.5.1.1.2 Publication Date	2.5.1.1.4 Title	2.5.1.1.6 Geospatial Data Presentation Form	2.5.1.1.8 Publication Information	2.5.1.2 Source Scale Denomi-nator	2.5.1.4 Source Time Period
Melissa Milander, San Diego Unified Port District	None	Sea Turtles, San Diego Bay	Personal Knowledge	None	None	1994

2.5.1. SOURCE INFORMATION:

Coverage or theme name: SHELLFSH

2.5.1.1. SOURCE CITATION

2.5.1.1.1 Originator	2.5.1.1.2 Publication Date	2.5.1.1.4 Title	2.5.1.1.6 Geospatial Data Presentation Form	2.5.1.1.8 Publication Information	2.5.1.2 Source Scale Denomi-nator	2.5.1.4 Source Time Period
California Department of Fish and Game	1980	Atlas of California Coastal Marine Resources	Map	Unknown	24,000	1970's
A.D. Beccasio, et al., Dames & Moore	1981	Pacific Coast Ecological Inventory - San Luis Obispo, California	Map, a report accompanies the map series	Biological Ser-vices Program, U.S. Fish and Wildlife Service, Slidell, La., Report No. FWS / OBS-81 / 30, 159 pp.	250,000	Data for map series compiled from many sources 1921-81

2.5.1.1.1 Originator	2.5.1.1.2 Publication Date	2.5.1.1.4 Title	2.5.1.1.6 Geospatial Data Presentation Form	2.5.1.1.8 Publication Information	2.5.1.2 Source Scale Denomi-nator	2.5.1.4 Source Time Period
U.S. Fish and Wildlife Service and California Department of Fish and Game	1976	The Natural Resources of Mugu Lagoon	Report / paper?	Unknown	None	Unknown
William S. Leet, Christopher Dewees, and Charles Haugen	1992	California Living Marine Resources and Their Utilization	Book	Unknown	None	Unknown
R.L. Emmett, S.L. Stone, S.A. Hintor, and M.E. Monaco	1991	Distribution and Abundance of Fishes and Invertebrates in West Coast Estuaries - Volume II: Species Life History Summaries	Book	ELMR Rep. No. 8, NOAA / NOS Strategic Environmental Assessments Division, Rockville, Md., 329 pp.	None	Info compiled from the historical and current literature and expert personal comm. and knowledge
Susan McBride, California Sea Grant	None	Commercial Fisheries, Locations by species	Personal Knowledge	None	None	1994
John Grant, California Department of Fish and Game–OSPR	None	Southern California scallops, sea urchins, lobster, abalone, clams, octopus	Personal Knowledge	None	None	1994
Dave Parker, California Department of Fish and Game, Marine Resources Division	None	Southern California squid, sea urchin, lobster, abalone, clams, scallops, crabs, octopus	Personal Knowledge	None	None	1994

2.5.1.1.1 Originator	2.5.1.1.2 Publication Date	2.5.1.1.4 Title	2.5.1.1.6 Geospatial Data Presentation Form	2.5.1.1.8 Publication Information	2.5.1.2 Source Scale Denomi-nator	2.5.1.4 Source Time Period
Steve Crooke, California Department of Fish and Game, Marine Resources Division	None	Southern California squid	Personal Knowledge	None	None	1994
Robin Lewis, California Department of Fish and Game–OSPR	None	Various clams and scallops	Personal Knowledge	None	None	1994
George Gross, California Department of Fish and Game	None	Shellfish, Santa Barbara and Ventura Cos.	Personal Knowledge	None	None	1994
Ronald Takayama, California Department of Fish and Game	None	Shellfish, Santa Barbara and Ventura Cos.	Personal Knowledge	None	None	1994
Dr. Jack Engle, University of California at Santa Barbara	None	Clams and abalone, Santa Barbara area and No. Channel Islands	Personal Knowledge	None	None	1994
Rob Klinger, The Nature Conservancy	None	Shellfish, Santa Cruz Island	Personal Knowledge	None	None	1994
L. Laughrin, University of California at Santa Barbara	None	Shellfish, Santa Cruz Island	Personal Knowledge	None	None	1994
D. Richards, National Park Service	None	Shellfish, Channel Islands National Park	Personal Knowledge	None	None	1994
P.L. Haaker, California Department of Fish and Game	None	Abalone and Lobster, San Nicolas Island	Personal Knowledge	None	None	1995

2.5.1. SOURCE INFORMATION:

Coverage or theme name: SOCECON

2.5.1.1. SOURCE CITATION

2.5.1.1.1 Originator	2.5.1.1.2 Publication Date	2.5.1.1.4 Title	2.5.1.1.6 Geospatial Data Presentation Form	2.5.1.1.8 Publication Information	2.5.1.2 Source Scale Denomi-nator	2.5.1.4 Source Time Period
State Water Resources Control Board	1976	Areas of special biological significance	Map	Unknown	2-5" = 1 mile	Unknown
Emil Smith and Thom Johnson	1974	The Marine Life Refuges and Reserves of California	Map	Unknown	1" = 2 miles	Unknown
Research Planning, Inc.	1980	Sensitivity of Coastal Environments to Spilled Oil, Southern California Atlas	Map	Prepared for: NOAA, Office of Oceanography and Marine Assessment, Seattle, Wash.	1:24,000	1980
California Coastal Commission	1987	California coastal resource guide	Book	Unknown	None	1980's
California Coastal Commission	1991	California coastal access guide	Book	Unknown	None	1980's
Rob Collins, CDF&G–Marine Resources Division	1993	State Aquaculture Leases	Book	Unknown	None	Unknown
California State Water Resources Control Board, Division of Planning and Research, Surveillance and Monitoring Section (used for ASBS boundary)	1979	California Marine Waters ASBS Reconnaissance Survey Report, Santa Catalina Island Subarea One	Book	Water Quality Monitoring Report No. 79-6, 192 pp.	None	~1970-1978
Ted Kuipen, Kuipen Mariculture	None	Locations off-the-ground culture of commercial oyster aquaculture	Personal Knowledge	None	None	1994

2.5.1.1.1 Originator	2.5.1.1.2 Publication Date	2.5.1.1.4 Title	2.5.1.1.6 Geospatial Data Presentation Form	2.5.1.1.8 Publication Information	2.5.1.2 Source Scale Denomi-nator	2.5.1.4 Source Time Period
Susan McBride, California Sea Grant	None	Commercial Fisheries, Locations by species	Personal Knowledge	None	None	1994
Craig Codd, Coast Oyster	None	Locations on-the-ground culture of commercial oyster aquaculture	Personal Knowledge	None	None	1994
David VenTresca, CDF&G-Marine Resources Division, 408-649-2881	None	Marine fisheries and resources, locations of ecological reserves	Personal Knowledge	None	None	1994
John Grant, California Department of Fish and Game–OSPR	None	So. California Areas of Special Biological Significance (ASBS)	Personal Knowledge	None	None	1994
Dave Parker, California Department of Fish and Game, Marine Resources Division	None	So. California Sportfishing Areas	Personal Knowledge	None	None	1994
Steve Crooke, California Department of Fish and Game, Marine Resources Division	None	So. California sport fishing pier, sport fishing areas, live-bait fishing areas	Personal Knowledge	None	None	1994
K. McKee-Lewis and Lt. Mike Castleton, California Department of Fish and Game	None	Recreational and commercial fishing areas	Personal Knowledge	None	None	1994
Robin Lewis, California Department of Fish and Game–OSPR	None	Various human-use resources	Personal Knowledge	None	None	1994

2.5.1.1.1 Originator	2.5.1.1.2 Publication Date	2.5.1.1.4 Title	2.5.1.1.6 Geospatial Data Presentation Form	2.5.1.1.8 Publication Information	2.5.1.2 Source Scale Denomi-nator	2.5.1.4 Source Time Period
Mickey Rivera, U.S. Fish and Wildlife Service	None	So. California National Park Location	Personal Knowledge	None	None	1994
Melissa Milander, San Diego Unified Port District	None	Various human-use resources, San Diego Bay	Personal Knowledge	None	None	1994
Mike Wells, California Department of Parks and Recreation	None	State Beaches, San Diego Co.	Personal Knowledge	None	None	1994
Jim Antrim, Seaworld	None	Water intake	Personal Knowledge	None	None	1994
Dave Pryor, California Department of Parks and Recreation	None	Various human-use resources (RB, SB, Arch, RF, A)	Personal Knowledge	None	None	1994
L. John, San Diego Gas and Electric	None	Water intakes, San Diego Bay	Personal Knowledge	None	None	1994
George Gross, California Department of Fish and Game	None	Fishing areas, recreational beaches, access, wetlands, Santa Barbara and Ventura Cos.	Personal Knowledge	None	None	1994
Ronald Takayama, California Department of Fish and Game	None	Recreational and commerical fishing areas, Santa Barbara and Ventura Cos.	Personal Knowledge	None	None	1994
Dave Coon, University of California at Santa Barbara	None	Access and wetland, Devereaux Slough	Personal Knowledge	None	None	1994
Maurice Cardenaz, California Department of Fish and Game	None	Wetlands, Santa Barbara and Ventura Cos.	Personal Knowledge	None	None	1994

2.5.1.1.1 Originator	2.5.1.1.2 Publication Date	2.5.1.1.4 Title	2.5.1.1.6 Geospatial Data Presentation Form	2.5.1.1.8 Publication Information	2.5.1.2 Source Scale Denomi-nator	2.5.1.4 Source Time Period
Dr. Richard Ambrose, University of California–Los Angeles	None	Wetlands, So. California	Personal Knowledge	None	None	1994
N. Lohmus, California Department of Fish and Game	None	Access, wetlands, Santa Barbara and Ventura Cos.	Personal Knowledge	None	None	1994
Heidi Togstad, California Department of Fish and Game–OSPR	None	Various soc-econ resources	Personal Knowledge	None	None	1994
Virginia Gardner-Johnson, California State Parks Depart-ment	None	Wetlands, San Luis Obispo, Santa Barbara and Ventura Cos.	Personal Knowledge	None	None	1994
Wayne Ferren, University of California at Santa Barbara	None	Wetlands, So. California	Personal Knowledge	None	None	1994
Rob Klinger, The Nature Conservancy	None	Wetlands, Santa Cruz Island	Personal Knowledge	None	None	1994
L. Laughrin, University of California at Santa Barbara	None	Wetlands, Santa Cruz Island	Personal Knowledge	None	None	1994
F. Wendell, California Department of Fish and Game	None	San Nicholas Island Translocation Zone (sea otter mgmt. area)	Personal Knowledge	None	None	1995

2.5.2. PROCESS STEP

2.5.2.1. PROCESS DESCRIPTION:

The digitization of ESI, biological resources, and human-use resources is a complex and highly quality-controlled process. In order to facilitate digitizing, the entire study area was split into individual quadrangles using a map index coverage. The first layer of information digitized is the ESI. Upon completion of digitization the data is checked for completeness, topological, and logical consistency and then plotted and checked by the overflight / field specialists. Any errors in the shoreline classification are updated prior to digitization of the biological and socioeconomic layers. All data use the shoreline as the geographic reference so that there are no slivers in the geographic layers. The biological information is compiled onto 1:24,000 USGS topographic quadrangles by an in-house biological and GIS expert using the data from regional specialists in the form of maps, tables, charts, and written descriptions of wildlife distributions. The data are digitized, checked using both digital and on-screen procedures, plotted, and sent out for review by the regional specialists. The edited maps are updated on the computer, checked once again, and plotted at final map scale. A team of specialists review the entire series of maps, check all data, and make final edits. The data are merged to form the study-wide layers that are described in this document. The data merging includes a final quality control check where topological consistency, rules for geography, and database to geography are checked and reported to the GIS manager.

2.5.2.3. PROCESS DATE:

199409

2.5.2.6. PROCESS CONTACT

2.5.2.6.1. CONTACT PERSON PRIMARY

2.5.2.6.1.1. CONTACT PERSON:

Jill Petersen

2.5.2.6.1.2. CONTACT ORGANIZATION:

NOAA HAZMAT

2.5.2.6.3. CONTACT POSITION:
GIS Manger

2.5.2.6.4. CONTACT ADDRESS

2.5.2.6.4.1. ADDRESS TYPE:
Physical Address

2.5.2.6.4.2. ADDRESS:
7600 Sand Point Way, NE, Bin C15700

2.5.2.6.4.3. CITY:
Seattle

2.5.2.6.4.4. STATE OR PROVINCE:
W A

2.5.2.6.4.5. POSTAL CODE:
98115

2.5.2.6.5. CONTACT VOICE TELEPHONE:
(206)526-6944

2.5.2.6.7. CONTACT FACSIMILE TELEPHONE:
(206)526-6329

2.5.2.6.8. CONTACT ELECTRONIC MAIL ADDRESS:
Jill Petersen@hazmat.noaa.gov.us

3.0. SPATIAL DATA ORGANIZATION INFORMATION

3.2. DIRECT SPATIAL REFERENCE METHOD:

Vector

3.3. POINT AND VECTOR OBJECT INFORMATION

3.3.1. SDTS TERMS DESCRIPTION:

3.3.1.1. SDTS POINT AND VECTOR OBJECT TYPE, and

3.3.1.2. POINT AND VECTOR OBJECT COUNT:

Theme	Universe Polygon	GT-Polygons	Area Points	Complete Chains	Line Segments	Label Points	Entity Points	Nodes
BIRDS	1	384	340	945	201,005			745
ESI	1	627	627	3,364	80,520			3,305
FISH	1	167	139	369	91,068			323
HYDRO	1	899	899	1,185	90,321			1,173
INDEX	1	54	54	141	231			93
MAMMALS	1	187	82	429	109,041			398
MGT	1	113	85	226	42,553			198
NESTS							38	
PLANTS	1	337	178	713	198,795			692
REPTILES	1	1	1	1	98			1
SHELLFSH	1	676	169	931	125,361			884
SOCECON				1	1		314	6
WETLANDS							27	

4.0. SPATIAL REFERENCE INFORMATION

4.1. HORIZONTAL COORDINATE SYSTEM DEFINITION

4.1.1 GEOGRAPHIC

4.1.1.1 LATITUDE RESOLUTION:
0.00005

4.1.1.2 LONGITUDE RESOLUTION:
0.00005

4.1.1.3 GEOGRAPHIC COORDINATE UNITS:
Decimal Degrees

4.1.4. GEODETIC MODEL

4.1.4.1. HORIZONTAL DATUM NAME:
North American Datum of 1927

4.1.4.2. ELLIPSOID NAME:
Clarke, 1866

4.1.4.3. SEMI-MAJOR AXIS:
6,378,206.4

4.1.4.4. DENOMINATOR OF FLATTENING RATIO:
294.98

5.0. ENTITY AND ATTRIBUTE INFORMATION

5.1. DETAILED DESCRIPTION: BIRDS

The coverage BIRD contains the polygons with bird species.

5.1.1. ENTITY TYPES:

5.1.1.1. ENTITY TYPE LABEL:	5.1.1.2. ENTITY TYPE DEFINITION:	
GT-Polygons	ID	integer

5.1.2. ATTRIBUTES:

5.1.2.1. ATTRIBUTE LABEL:

ID

5.1.2.2. ATTRIBUTE DEFINITION:

A unique identifier that links to the POLY_LUT table. The POLY_LUT is a lookup table with two attributes: ID and RARNUM. The value of RARNUM is determined for each unique combination of SPECIES_ID, SEASON_ID, and CONC. The items in BIORES are: RARNUM, SPECIES_ID, CONC, SEASON_ID, EXPERT_ID, and ELEMENT. SPECIES_ID is the numeric identifier of each species and is unique within each ELEMENT. CONC is the concentration of the species and can be LOW, MEDIUM, or HIGH or an actual count of the numbers of species present in the polygon. SEASON_ID contains a numeric value according to the monthly presence of the species. Usually, there is one seasonality per species, but occasionally the same species has different monthly presence or breeding activity. When this occurs, a new record with a different seasonality is referenced.

The following BIRD species are found in the southern California ESI atlas:

SPECIES ID	NAME
1	Common loon
7	Western grebe
8	Double-crested cormorant
9	Brandt's cormorant
10	Pelagic cormorant
13	Black brant
15	Snow goose
16	Mallard
17	Pintail
18	Green-winged teal
21	Canvasback
22	Greater scaup
23	Lesser scaup
30	Surf scoter
33	Red-breasted merganser
34	American coot
37	Western gull
43	Heermann's gull
46	Common murre
47	Pigeon guillemot
49	Cassin's auklet
50	Rhinoceros auklet
51	Tufted puffin
53	Northern phalarope
67	Sanderling
68	Black oystercatcher
79	Cormorant
85	California least tern
90	Black-crowned night heron
96	Leach's storm-petrel
102	Fork-tailed storm-petrel
107	Peregrine falcon
118	Brown pelican
133	Black skimmer
136	Caspian tern
137	Royal tern
138	Forster's tern
143	Xantus' murrelet
144	Ashy storm-petrel
145	Elegant tern
146	Black storm-petrel
150	Black rail
152	American oystercatcher
155	Willet
169	American wigeon
205	Light-footed clapper rail
206	California black rail
270	Western snowy plover
1,001	Gulls
1,002	Shorebirds
1,003	Waterfowl
1,004	Wading birds
1,005	Raptors
1,006	Diving birds
1,008	Terns

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

Integer

5.1. DETAILED DESCRIPTION: ESI

The Coverage ESI contains polygonal (GT-Polygons) and arc (Complete Chains) features for the ESI shoreline classification. The classification of the features is based upon *Guidelines for Developing Digital Environmental Sensitivity Index Atlases and Databases* (Michel, J. and J. Dahlin, 1993, Hazardous Materials Response and Assessment Division, NOAA). The ESI classification was performed 20-26 October 1992.

5.1.1. ENTITY TYPES:

5.1.1.1. ENTITY TYPE LABEL:	5.1.1.2. ENTITY TYPE DEFINITION:	
Complete Chain	ESI	character
	LINE	character
	SOURCE_ID	integer
GT-Polygons	ESI	character
	WATER_CODE	character

5.1.2. ATTRIBUTES:

5.1.2.1. ATTRIBUTE LABEL:

ESI

5.1.2.2. ATTRIBUTE DEFINITION:

The item ESI contains values according to the ESI ranking of the shorelines and polygons. The ESI rankings progress from low to high susceptibility to oil spills. The southern California shoreline types are listed below. In many cases, the shorelines are also ranked with multiple codes such as 10/7. The first number is the most landward shoreline type, salt marsh, with exposed tidal flats being the shoreline type closest to the water.

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
1A	Exposed Rocky Cliffs
1A / 3	Exposed Rocky Cliffs / Fine- to Medium-Grained Sand Beaches
1B	Exposed Seawall
1B / 2	Exposed Seawalls / Wave Cut Rocky Platforms
1B / 3	Exposed Seawalls / Fine- to Medium-Grained Sand Beaches
1B / 3 / 2	Exposed Seawalls / Fine- to Medium-Grained Sand Beaches / Wave Cut Rocky Platforms
1B / 4	Exposed Seawalls / Coarse-Grained Sand to Granule Beaches
1B / 5	Exposed Seawall / Mixed Sand and Gravel Beaches
1B / 6A	Exposed Seawall / Gravel Beaches
1B / 6A / 3	Exposed Seawall / Gravel Beaches / Fine- to Medium-Grained Sand Beaches
2	Wave Cut Rocky Platforms
2 / 3	Wave Cut Rocky Platforms / Fine- to Medium-Grained Sand Beaches
3	Fine- to Medium-Grained Sand Beaches
3 / 2	Fine- to Medium-Grained Sand Beaches / Wave Cut Rocky Platforms
4	Coarse-Grained Sand to Granule Beaches
4 / 1A	Coarse-Grained Sand to Granule Beaches / Exposed Rocky Cliffs
4 / 2	Coarse-Grained Sand to Granule Beaches / Wave Cut Rocky Platforms
5	Mixed Sand and Gravel Beaches
5 / 2	Mixed Sand and Gravel Beaches / Wave Cut Rocky Platforms
5 / 3	Mixed Sand and Gravel Beaches / Fine- to Medium-Grained Sand Beaches
5 / 3 / 2	Mixed Sand and Gravel Beaches / Fine- to Medium-Grained Sand Beaches / Wave Cut Rocky Platforms
6A	Gravel Beaches
6A / 2	Gravel Beaches / Wave Cut Rocky Platforms
6A / 3	Gravel Beaches / Fine- to Medium-Grained Sand Beaches
6A / 3 / 2	Gravel Beaches / Fine- to Medium-Grained Sand Beaches / Wave Cut Rocky Platforms
6A / 4	Gravel Beaches / Coarse-Grained Sand to Granule Beaches
6A / 5	Gravel Beaches / Mixed Sand and Gravel Beaches
6A / 9	Gravel Beaches / Sheltered Tidal Flats
6B	Riprap
6B / 2	Riprap / Wave Cut Rocky Platforms
6B / 3	Riprap / Fine- to Medium-Grained Sand Beaches
6B / 3 / 2	Riprap / Fine- to Medium-Grained Sand Beaches / Wave Cut Rocky Platforms
6B / 4	Riprap / Coarse-Grained Sand to Granule Beaches
6B / 5	Riprap / Mixed Sand and Gravel Beaches /
6B / 6A	Riprap / Gravel Beaches
6B / 6A / 3	Riprap / Exposed Tidal Flats
7	Exposed Tidal Flats
8A	Sheltered Rocky Shores
8B	Sheltered Man-Made Structures
9	Sheltered Tidal Flats
9 / 10	Sheltered Tidal Flats / Salt Marshes
10	Salt Marsh
10 / 7	Salt Marsh / Exposed Tidal Flats
10 / 9	Salt Marsh / Sheltered Tidal Flats
U	Unclassified

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

Ordered

5.1.2.1. ATTRIBUTE LABEL:

LINE

5.1.2.2. ATTRIBUTE DEFINITION:

Type of geographic feature

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
H	Hydrography or stream features
I	Index for map / quad boundary
O	Other lines that form the boundary for ESI polygons
S	Shoreline

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

Nominal

5.1.2.1. ATTRIBUTE LABEL:

SOURCE_ID

5.1.2.2. ATTRIBUTE DEFINITION:

Data source for the ESI

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
0	Digital
1	Overflight
3	Table Digitization from USGS Quadrangle
4	Edgematching
5	Digitized Off Scanned USGS Topos

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Randy Imai, California Department of Fish and Game

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

WATER_CODE

5.1.2.2. ATTRIBUTE DEFINITION:

Specifies a polygon as either water or land

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
W	Water
L	Land

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1. DETAILED DESCRIPTION: FISH

The coverage FISH contains the polygons with fish species.

5.1.1. ENTITY TYPES:

5.1.1.1. ENTITY TYPE LABEL:	5.1.1.2. ENTITY TYPE DEFINITION:	
GT-Polygons	ID	integer

5.1.2. ATTRIBUTES:

5.1.2.1. ATTRIBUTE LABEL:

ID

5.1.2.2. ATTRIBUTE DEFINITION:

A unique identifier that links to the POLY_LUT table. The POLY_LUT is a lookup table with two attributes: ID and RARNUM. The value of RARNUM is determined for each unique combination of SPECIES_ID, SEASON_ID, and CONC. The items in BIORES are: RARNUM, SPECIES_ID, CONC, SEASON_ID, EXPERT_ID, and ELEMENT. SPECIES_ID is the numeric identifier of each species and is unique within each ELEMENT. CONC is the concentration of the species and may be LOW, MEDIUM, or HIGH. SEASON_ID contains a numeric value according to the monthly presence of the species. Usually, there is one seasonality per species, but occasionally the same species has different monthly presence or breeding activity. When this occurs, a new record with a different seasonality is referenced.

The following FISH species are found in the southern California ESI atlas:

SPECIES ID	NAME
12	Starry flounder
13	C-O sole
28	Yellowtail rockfish
53	Cabezon
69	Coho salmon (silver)
74	Rainbow trout (steelhead)
75	Surf smelt
79	White seabass
96	Sanddab
106	California grunion
116	Striped mullet
192	Topsmelt
223	Rockfish
224	Surfperch
225	California halibut
226	Tidewater goby
260	Barred sand bass
261	Spotted sand bass
262	California corbina
264	Yellowfin croaker
265	Spotfin croaker
266	Kelp bass
267	Opaleye
284	Flounder
285	California barracuda
286	Sole

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1. DETAILED DESCRIPTION: HYDRO

The Coverage HYDRO contains polygonal water and land features as well as linear features for rivers / streams that are tidally influenced. This coverage was created using the digital shoreline provided by the California State Land Office.

5.1.1. ENTITY TYPES:

5.1.1.1. ENTITY TYPE LABEL:	5.1.1.2. ENTITY TYPE DEFINITION:	
Complete Chains	LINE	character
	SOURCE_ID	integer
GT-Polygons	WATER_CODE	character

The LINE, SOURCE_ID, and WATER_CODE attributes are the same as in the ESI coverage.

5.1.2. ATTRIBUTES:

5.1.2.1. ATTRIBUTE LABEL:

WATER_CODE

5.1.2.2. ATTRIBUTE DEFINITION:

Specifies a polygon as either water or land

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
W	Water
L	Land

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

Ordered

5.1.2.1. ATTRIBUTE LABEL:

LINE

5.1.2.2. ATTRIBUTE DEFINITION:

Type of geographic feature

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
H	Hydrography or stream features
I	Index for map / quad boundary
O	Other lines that form the boundary for ESI polygons
S	Shoreline

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.1. ATTRIBUTE LABEL:

SOURCE_ID

5.1.2.2. ATTRIBUTE DEFINITION:

Type of geographic feature

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
0	Digital
1	Overflight
3	Table Digitization from USGS Quadrangle
4	Edgematching
5	Digitized Off Scanned USGS Topos

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1. DETAILED DESCRIPTION: INDEX

The coverage INDEX contains the map boundaries for each quad/map in the atlas.

5.1.1. ENTITY TYPES:

5.1.1.1. ENTITY TYPE LABEL:	5.1.1.2. ENTITY TYPE DEFINITION:	
GT-Polygons	TILE-NAME	character
	TOPO-NAME	character
	SCALE	integer
	MAPANGLE	fraction
	PAGESIZE	character

5.1.2. ATTRIBUTES:

5.1.2.1. ATTRIBUTE LABEL:

TILE-NAME

5.1.2.2. ATTRIBUTE DEFINITION:

The tile-name contains the map number according to the specified layout of the atlas. During the map production process the value of tile-name is plotted on the map product to order the maps in a coherent manner. The values for each polygon are unique and range from 1 through 41.

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

Ordered

5.1.2.1. ATTRIBUTE LABEL:

TOPO-NAME

5.1.2.2. ATTRIBUTE DEFINITION:

USGS 1:24,000 topographic map name. Some polygons straddle two or more maps and all map names are included in this attribute. The date (latest/revised) of the USGS maps are also included in this field.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

ANACAPA ISLAND, CALIF. (1973)
CARPINTERIA, CALIF. (1988)
DEL MAR, CALIF. (1975)
DOS PUEBLOS CANYON, CALIF. (1988)
ENCINITAS, CALIF. (1975)
GAVIOTA, CALIF. (1982)
GOLETA, CALIF. (1988)
IMPERIAL BEACH, CALIF.–BAJA, CALIF. NORTE (1975)
LA JOLLA, CALIF. (1975)
LAGUNA BEACH, CALIF. (1981)
LONG BEACH, CALIF. (1981)
LOS ALAMITOS, CALIF. (1981); SEAL BEACH, CALIF. (1981)
MALIBU, CALIF. (1981)
NEWPORT BEACH, CALIF. (1981)
OCEANSIDE, CALIF. (1975); SAN LUIS REY, CALIF. (1975)
OXNARD, CALIF. (1967)
POINT CONCEPTION, CALIF (1974)
POINT DUME, CALIF. (1981)
POINT LOMA, CALIF. (1975)
POINT LOMA, CALIF. (1975); NATIONAL CITY, CALIF. (1975)
POINT MUGU, CALIF. (1967)
REDONDO BEACH, CALIF. (1981)
SACATE, CALIF. (1953)
SAN CLEMENTE, CALIF. (1975); SAN ONOFRE BLUFF, CALIF. (1975)
SAN CLEMENTE ISLAND CENTRAL, CALIF. (1980)
SAN CLEMENTE ISLAND NORTH, CALIF. (1980)
SAN CLEMENTE ISLAND SOUTH, CALIF. (1980)
SAN JUAN CAPISTRANO, CALIF. (1981); DANA POINT, CALIF. (1975)
SAN MIGUEL ISLAND EAST, CALIF. (1943); SAN MIGUEL ISLAND WEST, CALIF. (1943)
SAN NICOLAS ISLAND, CALIF. (1956)
SAN ONOFRE BLUFF, CALIF. (1975); LAS PULGAS CANYON, CALIF. (1975)
SANTA BARBARA, CALIF. (1988)
SANTA BARBARA ISLAND, CALIF. (1973)
SANTA CATALINA EAST, CALIF. (1980)
SANTA CATALINA NORTH, CALIF. (1980)
SANTA CATALINA SOUTH, CALIF. (1980)
SANTA CATALINA WEST, CALIF. (1980)
SANTA CRUZ ISLAND A, CALIF. (1974)
SANTA CRUZ ISLAND B, CALIF. (1943)
SANTA CRUZ ISLAND C, CALIF. (1974)
SANTA CRUZ ISLAND D, CALIF. (1974)
SANTA ROSA ISLAND EAST, CALIF. (1943)
SANTA ROSA ISLAND NORTH, CALIF. (1943)
SANTA ROSA ISLAND SOUTH, CALIF. (1943)
SANTA ROSA ISLAND WEST, CALIF. (1943)
TAJIGUAS, CALIF. (1982)
TOPANGA, CALIF. (1981)
TORRANCE, CALIF. (1981); SAN PEDRO, CALIF. (1981)

TRIUNFO PASS, CALIF. (1967)
VENICE, CALIF. (1981)
VENTURA, CALIF. (1967)
WHITE LEDGE PEAK, CALIF. (1967); PITAS POINT, CALIF. (1967)

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

Nominal

5.1.2.1. ATTRIBUTE LABEL:

SCALE

5.1.2.2. ATTRIBUTE DEFINITION:

SCALE contains the value of the denominator of the scale at which the INDEX polygon is plotted in the final map product.

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

46,500
50,000

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

Nominal

5.1.2.1. ATTRIBUTE LABEL:

MAPANGLE

5.1.2.2. ATTRIBUTE DEFINITION:

MAPANGLE contains a value (usually negative) to rotate the final map product so that it is situated straight up and down.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

-1.75
-1.70
-1.55
-1.35
-1.20
-1.05
-1.00
-0.95
-0.91
-0.90
-0.85
-0.80
-0.70
-0.60
-0.44
-0.40
-0.30
-0.21
-0.20
-0.13
-0.10
-0.05
0.00
0.04
0.075
0.11
0.135
0.19
0.25
0.29

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

Nominal

5.1.2.1. ATTRIBUTE LABEL:

PAGESIZE

5.1.2.2. ATTRIBUTE DEFINITION:

PAGESIZE contains the value of the width and height of the map in the final map product.

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

11,17
17,11

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

Nominal

5.1. DETAILED DESCRIPTION: MAMMALS

The coverage MAMMAL contains the polygons with mammal species.

5.1.1. ENTITY TYPES:

5.1.1.1. ENTITY TYPE LABEL:	5.1.1.2. ENTITY TYPE DEFINITION:	
GT-Polygons	ID	integer

5.1.2. ATTRIBUTES:

5.1.2.1. ATTRIBUTE LABEL:

ID

5.1.2.2. ATTRIBUTE DEFINITION:

A unique identifier which links to the POLY_LUT table. The POLY_LUT is a lookup table with two attributes: ID and RARNUM. The value of RARNUM is determined for each unique combination of SPECIES_ID, SEASON_ID, and CONC. The items in BIORES are: RARNUM, SPECIES_ID, CONC, SEASON_ID, EXPERT_ID, and ELEMENT. SPECIES_ID is the numeric identifier of each species and is unique within each ELEMENT. CONC is the concentration of the species and can be LOW, MEDIUM, or HIGH or an actual count of the numbers of species present in the polygon. SEASON_ID contains a numeric value according to the monthly presence of the species. Usually, there is one seasonality per species, but occasionally the same species has different monthly presence or breeding activity. When this occurs, a new record with a different seasonality is referenced.

The following MAMMAL species are found in the southern California ESI atlas:

SPECIES ID	NAME
2	Harbor seal
3	Northern fur seal
7	Sea otter
17	Bottlenose dolphin
22	California sea lion
23	Guadalupe fur seal
24	Northern elephant seal
26	Gray whale
46	Risso's dolphin
60	Common dolphin

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

Integer

5.1. DETAILED DESCRIPTION: NESTS

The coverage NEST contains entity points representing nesting sites.

5.1.1. ENTITY TYPES:

5.1.1.1. ENTITY TYPE LABEL:	5.1.1.2. ENTITY TYPE DEFINITION:	
GT-Polygons	ID	integer

5.1.2. ATTRIBUTES:

5.1.2.1. ATTRIBUTE LABEL:

ID

5.1.2.2. ATTRIBUTE DEFINITION:

A unique identifier that links to the POLY_LUT table. The POLY_LUT is a lookup table with two attributes: ID and RARNUM. The value of RARNUM is determined for each unique combination of SPECIES_ID, SEASON_ID, and CONC. The items in BIORES are: RARNUM, SPECIES_ID, CONC, SEASON_ID, EXPERT_ID, and ELEMENT. SPECIES_ID is the numeric identifier of each species and is unique within each ELEMENT. CONC is the concentration of the species and can be LOW, MEDIUM, or HIGH or an actual count of the numbers of species present in the polygon. SEASON_ID contains a numeric value according to the monthly presence of the species. Usually, there is one seasonality per species, but occasionally the same species has different monthly presence or breeding activity. When this occurs, a new record with a different seasonality is referenced.

The following NESTS are found in the southern California ESI atlas:

SPECIES ID	NAME
8	Double-crested cormorant
9	Brandt's cormorant
10	Pelagic cormorant
37	Western gull
47	Pigeon guillemot
49	Cassin's auklet
68	Black oystercatcher
85	California least tern
96	Leach's storm-petrel
107	Peregrine falcon
118	Brown pelican
133	Black skimmer
136	Caspian tern
137	Royal tern
138	Forster's tern
143	Xantus' murrelet
144	Ashy storm-petrel
145	Elegant tern
270	Western snowy plover

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

Integer

5.1. DETAILED DESCRIPTION: PLANTS

The coverage PLANT contains the polygons with plant species.

5.1.1. ENTITY TYPES:

5.1.1.1. ENTITY TYPE LABEL:	5.1.1.2. ENTITY TYPE DEFINITION:	
GT-Polygons	ID	integer

5.1.2. ATTRIBUTES:

5.1.2.1. ATTRIBUTE LABEL:

ID

5.1.2.2. ATTRIBUTE DEFINITION:

A unique identifier that links to the POLY_LUT table. The POLY_LUT is a lookup table with two attributes: ID and RARNUM. The value of RARNUM is determined for each unique combination of SPECIES_ID, SEASON_ID, and CONC. The items in BIORES are: RARNUM, SPECIES_ID, CONC, SEASON_ID, EXPERT_ID, and ELEMENT. SPECIES_ID is the numeric identifier of each species and is unique within each ELEMENT. CONC is the concentration of the species and may be LOW, MEDIUM, or HIGH. SEASON_ID contains a numeric value according to the monthly presence of the species. Usually, there is one seasonality per species, but occasionally the same species has different monthly presence or breeding activity. When this occurs, a new record with a different seasonality is referenced.

The following PLANT species are found in the southern California ESI atlas:

SPECIES ID	NAME
1	Eelgrass
5	Salt marsh bird's-beak
7	Surfgrass
9	Giant kelp
77	Intermittent coastal wetlands

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

Integer

5.1. DETAILED DESCRIPTION: REPTILES

The coverage REPTILE contains the polygons with reptile species.

5.1.1. ENTITY TYPES:

5.1.1.1. ENTITY TYPE LABEL:	5.1.1.2. ENTITY TYPE DEFINITION:	
GT-Polygons	ID	integer

5.1.2. ATTRIBUTES:

5.1.2.1. ATTRIBUTE LABEL:

ID

5.1.2.2. ATTRIBUTE DEFINITION:

A unique identifier that links to the POLY_LUT table. The POLY_LUT is a lookup table with two attributes: ID and RARNUM. The value of RARNUM is determined for each unique combination of SPECIES_ID, SEASON_ID, and CONC. The items in BIORES are: RARNUM, SPECIES_ID, CONC, SEASON_ID, EXPERT_ID, and ELEMENT. SPECIES_ID is the numeric identifier of each species and is unique within each ELEMENT. CONC is the concentration of the species and can be LOW, MEDIUM, or HIGH. SEASON_ID contains a numeric value according to the monthly presence of the species. Usually, there is one seasonality per species, but occasionally the same species has different monthly presence or breeding activity. When this occurs, a new record with a different seasonality is referenced.

The following REPTILE species are found in the southern California ESI atlas:

SPECIES ID	NAME
8	Pacific green sea turtle

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

Integer

5.1. DETAILED DESCRIPTION: SHELLFSH

The coverage SHELLFSH contains the polygons with shellfish species.

5.1.1. ENTITY TYPES:

5.1.1.1. ENTITY TYPE LABEL:	5.1.1.2. ENTITY TYPE DEFINITION:	
GT-Polygons	ID	integer

5.1.2. ATTRIBUTES:

5.1.2.1. ATTRIBUTE LABEL:

ID

5.1.2.2. ATTRIBUTE DEFINITION:

A unique identifier that links to the POLY_LUT table. The POLY_LUT is a lookup table with two attributes: ID and RARNUM. The value of RARNUM is determined for each unique combination of SPECIES_ID, SEASON_ID, and CONC. The items in BIORES are: RARNUM, SPECIES_ID, CONC, SEASON_ID, EXPERT_ID, and ELEMENT. SPECIES_ID is the numeric identifier of each species and is unique within each ELEMENT. CONC is the concentration of the species and can be LOW, MEDIUM, or HIGH. SEASON_ID contains a numeric value according to the monthly presence of the species. Usually, there is one seasonality per species, but occasionally the same species has different monthly presence or breeding activity. When this occurs, a new record with a different seasonality is referenced.

The following SHELLFSH species are found in the southern California ESI atlas:

SPECIES ID	NAME
18	Pismo clam
20	California mussel
21	Washington butter clam
24	Gaper clam
28	Pacific razor clam
29	Common Pacific littleneck clam
30	Octopus
35	Rock scallop
37	Pacific coast squid
54	California spiny lobster
58	Sunset clam
60	Abalone
61	Red abalone
62	Black abalone
63	Green abalone
65	Pink abalone
66	California jackknife clam
73	Squid
76	Nuttall's cockle (basket, heart)
86	Red sea urchin
89	Speckled scallop
91	Rock crab
1,001	Crabs

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

Integer

5.1. DETAILED DESCRIPTION: SOCECON

The coverage SOCECON contains the entity points and complete chains for the human-use data.

5.1.1. ENTITY TYPES:

5.1.1.1. ENTITY TYPE LABEL:	5.1.1.2. ENTITY TYPE DEFINITION:	
Complete Chain	SOCECON	character
Entity Points	SOCECON	character
	ID	character

5.1.2. ATTRIBUTES:

5.1.2.1. ATTRIBUTE LABEL:

ID

5.1.2.2. ATTRIBUTE DEFINITION:

A unique identifier that links to the PNTS_LUT table. PNTS_LUT is a lookup table with two attributes: ID and RARNUM. RARNUM is the link to the socioeconomic data found in the SOC_DATA table. The table SOC_DATA contains feature type, contact person, owner of the facility, phone number, and any comments regarding the site. The RARNUM value is distinguished from the biology RARNUM values by an "H" preceeding the unique number.

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

Integer

5.1.2.1. ATTRIBUTE LABEL:

SOCECON

5.1.2.2. ATTRIBUTE DEFINITION:

Identifies a line or point with a socioeconomic, or human-use, feature. This attribute allows direct access to the type of feature instead of linking to the more detailed SOC_DATA table.

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
A2	Access
A	Airport
AQ	Aquaculture
AS	Archaeological Site
B	Beach
BR	Boat Ramp
CG	Coast Guard
FA	Fishery Area
H	Hoist
HS	Historical Site
IR	Indian Reservation
M	Marina
MS	Marine Sanctuary
NP	National Park
P	Park
PF	Public Fishing
RB	Recreational Beach
RP	Regional Park
S	Subsistence
V	Village
WI	Water Intake
WR	Wildlife Refuge

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

Nominal

6.0. DISTRIBUTION INFORMATION

6.1. DISTRIBUTOR

6.1.1. CONTACT PERSON PRIMARY

6.1.1.1. CONTACT PERSON:

Jill Petersen

6.1.1.2. CONTACT ORGANIZATION:

NOAA

6.1.4. CONTACT ADDRESS

6.1.4.1. ADDRESS TYPE:

Physical Address

6.1.4.2. ADDRESS:

7600 Sand Point Way N.E., Bin C15700

6.1.4.3. CITY:

Seattle

6.1.4.4. STATE OR PROVINCE:

W A

6.1.4.5. POSTAL CODE:

98115

6.1.5. CONTACT VOICE TELEPHONE:

(206) 526-6944

6.1.7. CONTACT FACSIMILE TELEPHONE:

(206) 526-6329

6.2. RESOURCE DESCRIPTION:

ESI Atlas for Southern California

6.3. DISTRIBUTION LIABILITY:

Although this data has been processed successfully on a computer system at the National Oceanic and Atmospheric Administration, no warranty, expressed or implied, is made by NOAA regarding the utility of the data on any other system, nor shall the act of distribution constitute any such warranty. NOAA warrants the delivery of this product in computer-readable format, and will offer a replacement copy of the product when the product is determined unreadable by computer input peripherals, or when the physical medium is delivered in damaged condition.

6.5. CUSTOM ORDER PROCESS

Contact NOAA for distribution options (see 6.1.1.).

7.0. METADATA REFERENCE INFORMATION

7.1. METADATA DATE:
19950710

7.2. METADATA REVIEW DATE:
19941115

7.4. METADATA CONTACT

7.4.1. CONTACT PERSON PRIMARY

7.4.1.1. CONTACT PERSON:
Jill Petersen

7.4.1.2. CONTACT ORGANIZATION:
NOAA HAZMAT

7.4.3. CONTACT POSITION:
GIS Manger

7.4.4. CONTACT ADDRESS

7.4.4.1. ADDRESS TYPE:
Physical Address

7.4.4.2. ADDRESS:
7600 Sand Point Way, NE, Bin15700

7.4.4.3. CITY:
Seattle

7.4.4.4. STATE OR PROVINCE:
Washington

7.4.4.5. POSTAL CODE:
98115

7.4.5. CONTACT VOICE TELEPHONE:
(206)526-6944

7.4.7. CONTACT FACSIMILE TELEPHONE:
(206)526-6329

7.4.8. CONTACT ELECTRONIC MAIL ADDRESS:
Jill_Petersen@hazmat.noaa.gov.us

7.5. METADATA STANDARD NAME:
Content Standards for Digital Geospatial Metadata

7.6. METADATA STANDARD VERSION:
19940608